shaped I-III-VI semiconductor, allegedly known from EP 0 940 860 A1, paragraphs [0001] and [0076], and thus the groups lack a corresponding special technical feature.

EP 0 940 860 A1describes a particular semiconductor solar cell in spherical form. It consists of a core material, on which a semiconductor and several other layers are deposited. For the core material in the examples, metallurgical silicon is chosen, whereas it is mentioned in [0026] that also "transparent insulating material" can be used. As possible semiconductor coating, $CuInSe_2$ is mentioned in [0012], i.e. a I-II-VI semiconductor.

According to [0029] following, the spherical solar cell is obtained from a silicon core by preparing a reflective film on its surface, consisting of two layers, namely SiO_2 and Si_3N_4. On that surface, a p-type semiconductor layer (p-Si) is deposited by thermal decomposition of monosilane, followed by recrystallization. After an etching step, this layer is covered with an insulating SiO_2 layer, followed by an n-type silicon-layer, which is again covered by SiO_2. Afterwards, a protective coating of TiO_2 is applied. Finally, the electric contacts are established.

Instead of metallurgical silicon, a core made of an iron-nickel alloy can be used as well, which can optionally be covered with an aluminum layer as described in [0071] to [0072]. Instead of p/n-silicon, CdTe or $CuInSe_2$ are mentioned in [0076] to be suitable semiconductors.

The method of the invention for producing a grain-shaped semiconductor element according to claim 1 is especially characterized by the fact that the semiconductor is formed in- situ on a core material by chemical reaction between two overlying precursor layers with selenium or sulfur. Contrary to that, EP 0 940 860 A1 uses only prepared semiconductor substances, which are physically deposited on the core.

As is stated in [0009] of the publication of the present application, methods like those described in EP 0 940 860 A1 are complicated as they involve numerous steps, which makes these processes expensive. In addition, chemical production of the semiconductor in-situ on the core material increases adhesion of that layer, which is important because the particulate solar cells are further processed to flat

panel solar cells, as shown in Fig. 2 of the present application and thus are exposed to physical stress.

EP 0 940 860 A1 fails to disclose the in-situ preparation of the semiconductor layer from a system of two precursor layers on top of each other which are then reacted with a chalcogenide like sulfur or selenium. This document gives no suggestion to establish such a method for the production of a particular solar cell.

Accordingly, claims 1-9 are not anticipated or obvious in the light of EP 0 940 860 A1.

Claim 10 is directed to a grain-shaped semiconductor element with a soda-lime glass core coated with a back contact layer comprising molybdenum and a I-III-VI compound semiconductor.

Although EP 0 940 860 Al mentions "transparent" materials to be used for the core, mineral glass is not mentioned, not even speaking of soda-lime glass as a special variety of mineral glass. "Transparent" core materials are not further specified in EP 0 940 860 A1 so that a large amount of different materials could be addressed, such as polymers and the like. However, soda-lime glass has a positive effect on the layer structuring (see [0018] of the application publication), which cannot be derived by a skilled person from EP 0 940 860 A1.

The use of molybdenum as backside contact is also not mentioned in EP 0 940 860 A1. However, in combination with a core material of soda-lime glass, a Mo-backside contact allows the production of thinner layers leading to lower ohmic resistance as described in [0039] of the published application. This combination increases the overall performance of a solar cell material as described by claim 10.

As EP 0 940 860 A1does not disclose soda-lime glass as a core material, the specially adapted Mo-backside contact is not disclosed either. A person of ordinary skill does not gain any motivation from EP 0 940 860 Al to use soda-lime glass with a Mo-backside contact, so that the invention of claims 10-20 and 41 is not anticipated by or obvious over EP 0 940 860 A1.

In response to the restriction requirement, the applicants elect the claims of Group I, i.e., claims 1-20 and 41, for prosecution.

Should the examiner wish to discuss the foregoing or any matter of form in an effort to advance this application toward allowance, she is urged to telephone the undersigned at the indicated number.

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Respectfully submitted,

By_____

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